

REMARKS

Claims 1-4 are pending in the present application.

At the outset, Applicants wish to thank Examiner Witherspoon for the helpful and courteous discussion with their undersigned representative on August 19, 2004. During this discussion various arguments in traverse of the outstanding rejections and data to demonstrate the differences between the art and the present invention were discussed. The content of this discussion is reflected in the following comments. Reconsideration of the outstanding rejections is requested.

The rejection of Claims 1-4 and 4-7 under 35 U.S.C. §103(a) over Pearson et al in view of Walters is traversed.

The present invention relates to a process for the production of 2,7-dibromo-fluorenone, comprising oxidizing a 2,7-dibromofluorene-containing raw material with molecular oxygen in the presence of a phase transfer catalyst in a heterogeneous, mixed solvent of an aqueous solution of a caustic alkali and a water-insoluble organic solvent (see Claim 1).

Pearson et al disclose the oxidation of a fluorene (e.g., 2-vinyl-fluorene) to fluorenone by reacting the fluorene with oxygen in the presence of benzyltrimethyl ammonium hydroxide in a suitable solvent (e.g., pyridine); see column 2, lines 13-25 and 49-62. However, as the Examiner recognizes, Pearson et al fail to disclose or suggest the starting material (2,7-dibromofluorene) and/or end product (2,7-dibromo-fluorenone) of the claimed invention, as well as any suggestion of the inclusion of a caustic alkali in the reaction.

Although the Examiner recognizes these deficiencies in the disclosure of Pearson et al, the Examiner asserts that Walters discloses the formation of a fluorenone by oxidation of the corresponding fluorene and, in so doing, provides the motivation to add a caustic alkali along with the quaternary ammonium catalyst (see Example 1). Although Walters discloses the addition of sodium hydroxide and tetrabutylammonium hydroxide to fluorene, Applicants note that the reaction catalyzed thereby is the formation of a gem-dichlorofluorene. A ketone is then formed from the gem-dichlorofluorene following the addition of an acid. Accordingly, the reaction catalyzed by the quaternary ammonium catalyst in Walters is not the same as in Pearson et al or in the present invention.

Further, at no point does Walters disclose or suggest the addition of molecular oxygen or the water-insoluble organic solvent as defined in the present invention. As such, there would be no motivation to combine the disclosures of Pearson et al and Walters. The requisite standard for determining obviousness is whether there is a “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.”

(MPEP §2142) In the present application, there is no suggestion in Pearson et al or Walters to modify or combine their teachings. Applicants kindly ask the Examiner to not use their disclosure as the guidepost to bring these two disparate references together. The question that the Examiner should ask is why would a person in the art bring these two references together when they did not have the prior benefit of *applicant's* disclosure.

Moreover, MPEP §2142 states: “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation... to modify the reference... Second, there must be a reasonable expectation of success. Finally, the prior art reference... must teach or suggest all the claim limitations.” To demonstrate the

unexpected advantages offered by present invention, Applicants **submit herewith a** Declaration under 37 C.F.R. §1.132 executed by Mr. Youko Sugio (referred to hereinafter as “the Sugio Declaration”). In the Sugio Declaration, Applicants demonstrate that the inclusion of the caustic alkali compound (a fundamental distinction between the present invention and the disclosure of Pearson et al) in the claimed reaction offers an unexpected benefit as compared to the same reaction in the absence of caustic alkali. In paragraph 7-2 of the Sugio Declaration, 2,7-dibromofluoroene prepared in the absence of caustic alkali were “scarcely obtained,” which could not be detected after gas chromatography, while the same reaction in the presence of caustic alkali (paragraph 7-1) results in a 89.0% yield and a purity of 99.4%. Such a result could not be expected based on the disclosure of Pearson et al, even when combined with the disclosure of Walters.

In view of the foregoing and the Sugio Declaration **enclosed herewith**, Applicants submit that the present invention is not obvious in view of the combined disclosures of Pearson et al and Walters. Accordingly, Applicants request withdrawal of this ground of rejection.

Accordingly, Applicants submit that the present application is now in condition for allowance. Early notification of such action is earnestly solicited.

Respectfully submitted,

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